

LISTING OF SPECIFICATION AND VERSION OF
SPECIFICATION WITH MARKINGS TO SHOW CHANGES MADE

Page 2 after line 18 add:

In United States Patent No. 5,237,306, issued to Robert Adell on August 17, 1993, a signalling system is described for requesting a driver of a motor vehicle to dim or turn on his vehicle's headlights, but Adell provides no means for warning on-coming drivers of an upcoming road hazard, or for informing them of the relative location of that road hazard.

LISTING OF CLAIMS AND VERSION OF
CLAIMS WITH MARKINGS TO SHOW CHANGES MADE

1. (Canceled) A cooperative advance warning system for use on a vehicle to warn drivers of oncoming vehicles of an upcoming, unexpected road hazard comprising:

a lamp mounted on the vehicle in a location where light emitted by said lamp is visible to drivers of the oncoming vehicles;

a switch means connected to said lamp for activating and deactivating said lamp, said switch means mounted to the vehicle in a location that is easily accessible to the driver of the vehicle; and

an electronic control means connected to said lamp for controlling the characteristics of the light emitted by said lamp, said electronic control means being capable of causing said lamp to flash on and off at a pre-determined frequency, said predetermined frequency being variable in proportion to the length of time said lamp has been activated.

2. (Canceled) A cooperative advance warning system according to claim 1, wherein said electronic control means comprises means to automatically deactivate said lamp after a pre-determined period of time following activation.

3.(5) (Canceled) A cooperative advance warning system according to claim 1, wherein said pre-determined frequency is inversely proportional to the length of time said lamp has been activated.

4.(6) (Canceled) A cooperative advance warning system according to claim 1, wherein said pre-determined frequency comprises a cadence.

5.(7) (Canceled) A cooperative advance warning system according to claim 1, wherein said electronic control means further comprises means to maintain said pre-determined frequency or

cadence at a particular value for an indefinite period.

6.(8) (Canceled) A cooperative advance warning system according to claim 1, further comprising an in-use indicator light connected to said switch means and to said electronic control means for indicating to the driver of the vehicle when the cooperative advance warning system is operating.

7.(9) (Canceled) A cooperative advance warning system according to claim 1, wherein the colour of light emitted by said lamp is selected from the group of colours consisting of fuchsia and pink.

12.(16) (Canceled) A cooperative advance warning system according to claim 1, for use on a vehicle having brake lights, further comprising:

a connection between said electronic control means and the vehicle brake lights,
said electronic control means being capable of causing the vehicle brake lights to flash on and off at a high frequency upon activation of the advance warning system.

13.(17) (Canceled) A cooperative advance warning system according to claim 1, further comprising:

a rear-facing warning light mounted on the rear of the vehicle; and
a connection between said electronic control means and said rear-facing warning light,
said electronic control means being capable of causing said rear-facing warning light to flash on and off at a high frequency upon activation of the advance warning system.

14.(18) (Canceled) A cooperative advance warning system according to claim 12, wherein the vehicle brake lights remain flashing on and off only for a pre-determined period of time following activation of the advance warning system.

15.(19) (Canceled) A cooperative advance warning system according to claim 13, wherein said rear-facing warning light remains flashing on and off only for a pre-determined period of time following activation of the advance warning system

16.(20) (Canceled) A cooperative advance warning system according to claim 1, for use on a vehicle having brake lights, further comprising:

a connection between said electronic control means and the vehicle brake lights,
said electronic control means being capable of causing the vehicle brake lights and said lamp to flash on and off at a high frequency upon activation of the advance warning system,
said switch having a first mode for activating and deactivating said lamp only, and a second mode for activating and deactivating both said lamp and the vehicle brake lights.

17.(21) (Canceled) A cooperative advance warning system according to claim 1, further comprising:

a rear-facing warning light mounted on the rear of the vehicle; and
a connection between said electronic control means and said rear-facing warning light,
said electronic control means being capable of causing said rear-facing warning light to flash on and off at a high frequency upon activation of the advance warning system,
said switch having a first mode for activating and deactivating said lamp only, and a second mode for activating and deactivating both said lamp, and said rear-facing warning light.

22. (Canceled) A cooperative advance warning system according to claim 12, further comprising:

a rear-facing warning light mounted on the rear of the vehicle; and
a connection between said electronic control means and said rear-facing warning light,

said electronic control means being capable of causing said rear-facing warning light to flash on and off at a high frequency upon activation of the advance warning system.

23. (Canceled) A cooperative advance warning system according to claim 13, wherein the vehicle brake lights remain flashing on and off only for a pre-determined period of time following activation of the advance warning system.

24. (Canceled) A cooperative advance warning system according to claim 18, wherein the vehicle brake lights remain flashing on and off only for a pre-determined period of time following activation of the advance warning system.

25. (Canceled) A cooperative advance warning system according to claim 18, wherein said rear-facing warning light remains flashing on and off only for a pre-determined period of time following activation of the advance warning system

26. (Canceled) A cooperative advance warning system according to claim 16, further comprising:

a rear-facing warning light mounted on the rear of the vehicle; and

a connection between said electronic control means and said rear-facing warning light,

said electronic control means being capable of causing said rear-facing warning light to flash on and off at a high frequency upon activation of the advance warning system,

said switch having a first mode for activating and deactivating said lamp only, and a second mode for activating and deactivating both said lamp, and said rear-facing warning light.

27. (Canceled) A method of warning drivers of vehicles of an upcoming, unexpected road hazard comprising:

selecting a plurality of locations, each said location being located a selected respective

distance from the road hazard;

locating at each said location a portable cooperative advance warning system comprising a lamp for emitting a light beam that is visible to the drivers of said vehicles; and

causing each of said lamps to flash on and off at a respective frequency that is in proportion to said selected respective distance of said lamp from the road hazard.

28. (Canceled) A method according to claim 18, wherein said respective frequency comprises a cadence.

29. (Canceled) A method according to claim 18, wherein said locations are positioned generally in the same direction from the road hazard.

30. (Canceled) A method according to claim 18, wherein the colour of light emitted by said lamp is selected from the group of colours consisting of fuchsia and pink.

31. (Canceled) A method according to claim 18, wherein said respective frequency is inversely proportional to said selected respective distance of said lamp from the road hazard.

ADD THE FOLLOWING NEW CLAIMS

32. (New) A cooperative advance warning system for use on a vehicle to cooperate with drivers of oncoming vehicles to communicate a warning to the drivers of the oncoming vehicles to beware of the presence of an upcoming, unexpected road hazard comprising:

a lamp mounted on the vehicle in a location where light emitted by said lamp is visible to drivers of the oncoming vehicles;

a switch means connected to said lamp for activating and deactivating said lamp, said switch means mounted to the vehicle in a location that is easily accessible to the driver of the vehicle; and

an electronic control means connected to said lamp for controlling the characteristics of the light emitted by said lamp, said electronic control means being capable of causing said lamp to flash on and off at a pre-determined frequency, said electronic control means being capable of varying said predetermined frequency in proportion to the length of time said lamp has been activated.

- 33. (New) A cooperative advance warning system according to claim 32, wherein said electronic control means comprises means to automatically deactivate said lamp after a pre-determined period of time following activation.
- 34. (New) A cooperative advance warning system according to claim 32, wherein said electronic control means is capable of varying said pre-determined frequency inversely proportional to the length of time said lamp has been activated.
- 35. (New) A cooperative advance warning system according to claim 32, wherein said pre-determined frequency comprises a cadence.
- 36. (New) A cooperative advance warning system according to claim 32, wherein said electronic control means further comprises means to maintain said pre-determined frequency or cadence at a particular value for an indefinite period.
- 37. (New) A cooperative advance warning system according to claim 32, further comprising an in-use indicator light connected to said switch means and to said electronic control means for indicating to the driver of the vehicle when the cooperative advance warning system is operating.
- 38. (New) A cooperative advance warning system according to claim 32, wherein the colour of light emitted by said lamp is selected from the group of colours consisting of fuchsia and pink.

39. (New) A cooperative advance warning system according to claim 32, for use on a vehicle having brake lights, further comprising:
- a connection between said electronic control means and the vehicle brake lights,
 - said electronic control means being capable of causing the vehicle brake lights to flash on and off at a high frequency upon activation of the advance warning system.
40. (New) A cooperative advance warning system according to claim 32, further comprising:
- a rear-facing warning light mounted on the rear of the vehicle; and
 - a connection between said electronic control means and said rear-facing warning light,
 - said electronic control means being capable of causing said rear-facing warning light to flash on and off at a high frequency upon activation of the advance warning system.
41. (New) A cooperative advance warning system according to claim 39, wherein the vehicle brake lights remain flashing on and off only for a pre-determined period of time following activation of the advance warning system.
42. (New) A cooperative advance warning system according to claim 40, wherein said rear-facing warning light remains flashing on and off only for a pre-determined period of time following activation of the advance warning system.
43. (New) A cooperative advance warning system according to claim 32, for use on a vehicle having brake lights, further comprising:
- a connection between said electronic control means and the vehicle brake lights,
 - said electronic control means being capable of causing the vehicle brake lights and said lamp to flash on and off at a high frequency upon activation of the advance warning system,
 - said switch having a first mode for activating and deactivating said lamp only, and a

- second mode for activating and deactivating both said lamp and the vehicle brake lights.
44. (New) A cooperative advance warning system according to claim 32, further comprising:
- a rear-facing warning light mounted on the rear of the vehicle; and
 - a connection between said electronic control means and said rear-facing warning light, said electronic control means being capable of causing said rear-facing warning light to flash on and off at a high frequency upon activation of the advance warning system,
 - said switch having a first mode for activating and deactivating said lamp only, and a second mode for activating and deactivating both said lamp, and said rear-facing warning light.
45. (New) A cooperative advance warning system according to claim 39, further comprising:
- a rear-facing warning light mounted on the rear of the vehicle; and
 - a connection between said electronic control means and said rear-facing warning light, said electronic control means being capable of causing said rear-facing warning light to flash on and off at a high frequency upon activation of the advance warning system.
46. (New) A cooperative advance warning system according to claim 40, wherein the vehicle brake lights remain flashing on and off only for a pre-determined period of time following activation of the advance warning system.
47. (New) A cooperative advance warning system according to claim 45, wherein the vehicle brake lights remain flashing on and off only for a pre-determined period of time following activation of the advance warning system.
48. (New) A cooperative advance warning system according to claim 45, wherein said rear-facing warning light remains flashing on and off only for a pre-determined period of time following

activation of the advance warning system

49. (New) A cooperative advance warning system according to claim 43, further comprising:

a rear-facing warning light mounted on the rear of the vehicle; and

a connection between said electronic control means and said rear-facing warning light,

said electronic control means being capable of causing said rear-facing warning light to flash on and off at a high frequency upon activation of the advance warning system,

said switch having a first mode for activating and deactivating said lamp only, and a second mode for activating and deactivating both said lamp, and said rear-facing warning light.

CLEAN SET OF ALL PENDING CLAIMS

32. A cooperative advance warning system for use on a vehicle to cooperate with drivers of oncoming vehicles to communicate a warning to the drivers of the oncoming vehicles to beware of the presence of an upcoming, unexpected road hazard comprising:
- a lamp mounted on the vehicle in a location where light emitted by said lamp is visible to drivers of the oncoming vehicles;
 - a switch means connected to said lamp for activating and deactivating said lamp, said switch means mounted to the vehicle in a location that is easily accessible to the driver of the vehicle; and
 - an electronic control means connected to said lamp for controlling the characteristics of the light emitted by said lamp, said electronic control means being capable of causing said lamp to flash on and off at a pre-determined frequency, said electronic control means being capable of varying said predetermined frequency in proportion to the length of time said lamp has been activated.
33. A cooperative advance warning system according to claim 32, wherein said electronic control means comprises means to automatically deactivate said lamp after a pre-determined period of time following activation.
34. A cooperative advance warning system according to claim 32, wherein said electronic control means is capable of varying said pre-determined frequency inversely proportional to the length of time said lamp has been activated.

35. A cooperative advance warning system according to claim 32, wherein said pre-determined frequency comprises a cadence.
36. A cooperative advance warning system according to claim 32, wherein said electronic control means further comprises means to maintain said pre-determined frequency or cadence at a particular value for an indefinite period.
37. A cooperative advance warning system according to claim 32, further comprising an in-use indicator light connected to said switch means and to said electronic control means for indicating to the driver of the vehicle when the cooperative advance warning system is operating.
38. A cooperative advance warning system according to claim 32, wherein the colour of light emitted by said lamp is selected from the group of colours consisting of fuchsia and pink.
39. A cooperative advance warning system according to claim 32, for use on a vehicle having brake lights, further comprising:
- a connection between said electronic control means and the vehicle brake lights, said electronic control means being capable of causing the vehicle brake lights to flash on and off at a high frequency upon activation of the advance warning system.
40. A cooperative advance warning system according to claim 32, further comprising:
- a rear-facing warning light mounted on the rear of the vehicle; and
 - a connection between said electronic control means and said rear-facing warning light,
- said electronic control means being capable of causing said rear-facing warning light to flash on and off at a high frequency upon activation of the advance warning

system.

41. A cooperative advance warning system according to claim 39, wherein the vehicle brake lights remain flashing on and off only for a pre-determined period of time following activation of the advance warning system.
42. A cooperative advance warning system according to claim 40, wherein said rear-facing warning light remains flashing on and off only for a pre-determined period of time following activation of the advance warning system.
43. A cooperative advance warning system according to claim 32, for use on a vehicle having brake lights, further comprising:
 - a connection between said electronic control means and the vehicle brake lights,
 - said electronic control means being capable of causing the vehicle brake lights and said lamp to flash on and off at a high frequency upon activation of the advance warning system,
 - said switch having a first mode for activating and deactivating said lamp only, and
 - a second mode for activating and deactivating both said lamp and the vehicle brake lights.
44. A cooperative advance warning system according to claim 32, further comprising:
 - a rear-facing warning light mounted on the rear of the vehicle; and
 - a connection between said electronic control means and said rear-facing warning light,
 - said electronic control means being capable of causing said rear-facing warning light to flash on and off at a high frequency upon activation of the advance warning

system,

said switch having a first mode for activating and deactivating said lamp only, and a second mode for activating and deactivating both said lamp, and said rear-facing warning light.

45. A cooperative advance warning system according to claim 39, further comprising:

a rear-facing warning light mounted on the rear of the vehicle; and

a connection between said electronic control means and said rear-facing warning light,

said electronic control means being capable of causing said rear-facing warning light to flash on and off at a high frequency upon activation of the advance warning system.

46. A cooperative advance warning system according to claim 40, wherein the vehicle brake lights remain flashing on and off only for a pre-determined period of time following activation of the advance warning system.

47. A cooperative advance warning system according to claim 45, wherein the vehicle brake lights remain flashing on and off only for a pre-determined period of time following activation of the advance warning system.

48. A cooperative advance warning system according to claim 45, wherein said rear-facing warning light remains flashing on and off only for a pre-determined period of time following activation of the advance warning system

49. A cooperative advance warning system according to claim 43, further comprising:

a rear-facing warning light mounted on the rear of the vehicle; and

a connection between said electronic control means and said rear-facing warning light,

said electronic control means being capable of causing said rear-facing warning light to flash on and off at a high frequency upon activation of the advance warning system,

said switch having a first mode for activating and deactivating said lamp only, and a second mode for activating and deactivating both said lamp, and said rear-facing warning light.

REMARKS

Applicant wishes to thank Examiner Polk for the courtesy extended to its attorneys during the telephone interview of August 27, 2003. It is believed that the present amendment places the case in favorable condition for reconsideration.

Applicant traverses the rejections of claims under 35 USC 112. Claims 1-7, and 19 rejected under 35 USC 103(a) as being unpatentable over Adell U.S. Patent Number 5,237,306 when combined with Reppas et al. U.S. Patent Number 5,598,164. Claims 12 - 15 were rejected under 35 USC 103(a) as being obvious and unpatentable under Adell '306 in view of Reppas et al. '164 and further in view of Udofot U.S. Patent Number 5,005,004 and claim 23 was rejected as unpatentable under 35 USC 103(a) in view of Reppas '164 when combined with Pass U.S. Patent Number 4,065,104. These prior art rejections are also traversed.

Since the Article 19 amendments were never entered, the Description has been amended to include one of those amendments. A copy of the Article 19 amendment, page 2 is attached to this amendment for the Examiners review. No new matter has been added. Therefore the Description, after the paragraph commencing at page 2, line 15, reading:

“Similarly, four-way flashers, which flash signal lights at all four corners to the vehicle simultaneously, indicate that the flashing vehicle is itself, the hazard.

Turn signals indicate turns. Even hand signals are of little value.”

and before the paragraph entered in response to the first Office Action, commencing at page 2, line 20 should be amended to add:

In United States Patent No. 5,237,306, issued to Robert Adell on August 17, 1993, a signalling system is described for requesting a driver of a motor vehicle to

dim or turn on his vehicle's headlights, but Adell provides no means for warning on-coming drivers of an upcoming road hazard, or for informing them of the relative location of that road hazard.

It is believed that the indefiniteness rejections have now been explained and clarified.

The claims currently in the application as noted by the corresponding numbers have been cancelled and new claims 32 to 49 are attached hereto. As the Examiner will recall the Examiner renumbered the new claims 18-27 that were submitted in the last response, as claims numbers 22 to 31.

Thus the new claims correspond to the current claims in numbering as follows:

New	Previous	Original
32 to 38	1-7	(1, 2, 5-9)
39 to 44	12 to 17	(16-21)
45 to 49	22 to 26	

The amendment to the pre-amble of new claim 32 as noted in the telephone interview of the 27th is meant to address, in part, the Examiner's objection based on U.S. Patent No. 5,237,306 to Adell. Adell is directed to signalling the drivers of other motor vehicles to dim or turn on their own vehicle headlights. The problem addressed by Adell is one of excessive glare emanating from the other vehicles, or non-visibility of the other vehicles. In contrast, the applicant's invention is concerned with communicating a warning to the drivers of the oncoming vehicles to beware of the presence of an upcoming, unexpected road hazard. In Adell, the road hazard is not upcoming, but is the other vehicle itself. There should therefore be no motivation to combine Adell with any other reference to arrive at the applicant's invention, since Adell is directed to a totally different

purpose than the applicant's invention as described in new claim 32.

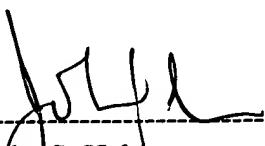
The amendment to the substantive portion of claim 32 is directed to the Examiner's objection based on U.S. Patent No. 5,598,164 to Reppas et al. Reppas et al. teaches a vehicle obstacle avoidance system that detects obstacles to the front, rear and sides of the vehicle, warns the driver, and prevents the vehicle from moving if the vehicle is stopped. The warning flashes given by the device of Reppas et al. vary depending on the proximity of the object to the vehicle, not the length of time the device has been activated. In particular, the electronic control device of Reppas et al. is inherently incapable of varying the frequency of the flashes based on the length of time the device has been activated, but instead relies only on the detected distance to the object. By reciting the capabilities of the applicant's electronic control device in new claim 32, as being capable of varying the predetermined frequency in proportion to the length of time the lamp has been activated, the applicant distinguishes his invention over Reppas et al.

A two month extension of time together with fee has been filed with this amendment. If there are any additional fees incurred please charge deposit account 07-1340.

It is respectfully requested that the arguments and amendments present in the present application in condition for favorable reexamination and that the application be passed to issue.

Respectfully submitted,

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